WHAT IS CLAIMED IS:

1.   A SAN/NAS integrated storage system comprising:

        a plurality of disks for storing data;

        a plurality of controllers for receiving an I/O command from a host computer and controlling said disks in accordance with the I/O command; and

        a network for interconnecting said plurality of controllers,

        wherein:

        one of said plurality of controllers has a block interface as an interface to the host computer; and

        another of said plurality of controllers has a file interface as an interface to the host computer.

2.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said block interface comprises:

        a channel adapter for communicating with the host computer; and

        a disk adapter for controlling said disks.

3.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

        a file server unit for communicating with the host computer;

        a file system for converting a command and data at a file level received from the host computer

into a command and data at a block level;

a channel adapter unit having an interface to said network; and

a disk adapter for controlling said disks.

4. A SAN/NAS integrated storage system according to claim 1, further comprising a control memory connected to said network and shared by said plurality of controllers.

5. A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a file server unit for communicating with the host computer;

a file system for converting a command and data at a file level received from the host computer into a command and data at a block level; and

a channel adapter unit having an interface to said network,

respectively mounted on a single board.

6. A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a file server unit for communicating with the host computer;

a file system for converting a command and data at a file level received from the host computer into a command and data at a block level;

a channel adapter unit for receiving the

command and the data at the block level issued from said file system; and

a disk adapter for controlling said disks.

7.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a plurality of communication paths between a file server unit for communicating with the host computer and a channel adapter unit for receiving an input/output command and input/output data at a block level,

wherein the command and the data are transmitted and received via different paths.

8.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a physical communication path between a file server unit for communicating with the host computer and a channel adapter unit for receiving an input/output command and input/output data at a block level,

wherein said physical communication path is controlled as if a plurality of independent and virtual paths exist, and the command and the data are transmitted and received via different paths.

9.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a physical communication path between a file server unit for communicating with the host computer and a channel adapter unit for receiving an input/output command and input/output data at a block level,

wherein said physical communication path is controlled as if a plurality of independent and virtual paths exist, and by inserting information specific to a file system into a command, the command and the data are transmitted and received via different paths.

10.   A SAN/NAS integrated storage system according to claim 1, wherein said controller having said file interface comprises:

a failure information communication path between a file server unit for communicating with the host computer and a channel adapter unit for receiving an input/output command and input/output data at a block level,

wherein failure information is transmitted to a control memory independently from a communication path for a command and data.

11.   A storage system comprising:

a disk for storing data;

a first adapter directly connected to a first network connected to a first host computer;

a second adapter directly connected to said disk; and

a second network directly connected to said

first and second adapters for interconnecting said
first and second adapters,

wherein said first adapter converts
information in conformity with a first protocol
received from the first host computer via said first
network into information in conformity with a second
protocol, and transferring the converted information to
said second adapter via said second network.

12.   A storage system according to claim 11,
further comprising:

a third adapter connected to a second host
computer via a third network,

wherein:

said second network interconnecting said disk
and said first to third adapters; and

the first protocol is a communication
protocol for said first network and the second protocol
is a communication protocol for said second and third
networks.

13.   A storage system according to claim 12,
wherein the first protocol is a protocol in conformity
with one of standards "Ethernet II", "IEEE802.3" and
"IEEE802.2".

14.   A storage system according to claim 12,
wherein said first adapter comprises:

a file server unit for transmitting and
receiving a command and data at a file level to and
from said first host computer; and

a channel adapter unit for transmitting and receiving a command and data at a block level to and from said second adapter,

respectively mounted on a single board or in a single housing.

15.   A storage system according to claim 14, wherein:

said file server unit comprises:

a server processor for controlling said file server unit;

a LAN controller for controlling the command and the data incoming from said first network; and

a first internal bus for interconnecting said server processor and said LAN controller,

wherein said file server unit executes a conversion process of the command and the data and sends the converted command and data to said channel adapter unit; and

said channel adapter unit sends the command and the data subjected to the conversion process to said second network.

16.   A storage system according to claim 15, further comprising:

a network data path for transmission/reception of the data; and

a control data path for transmission/reception of the command,

respectively provided physically or logically

independently between said filer server unit and said channel adapter unit,

wherein said network data path and said control data path are connected to said first internal bus.

17.   A storage system according to claim 16, wherein said channel adapter unit comprises:

a network data controller for controlling transmission/reception of the data to and from said second network;

a control data controller for controlling transmission/reception of the command to and from said second network; and

a second internal bus for interconnecting said network data controller and said control data controller,

wherein said second internal bus is connected to said network data path and said control data path.

18.   A storage system according to claim 17, wherein:

said file server unit comprises a host controller disposed between said server processor and said first internal bus for controlling transmission/reception of the command and the data and for controlling failure information; and

said channel adapter unit comprises a channel processor for controlling said channel adapter,

wherein a management bus is provided between

said file server unit and said channel adapter unit,
said management bus connects at least one of said
server processor and said host controller to said
channel adapter unit and transmits and receives the
failure information without involving said first
internal bus.

19.   A storage system according to claim 18,
wherein said management bus is connected to said
control data controller in said channel adapter unit
and transfers the failure information of said server
processor or said host controller to said channel
adapter unit.

20.   A storage system according to claim 19,
further comprising:

a management network to be connected to said
channel processor; and

a management processor to be connected to
said management network,

wherein: said channel processor is connected
to said control data controller to collect the failure
information and transfer the failure information to
said management processor; and

said management processor instructs said
channel processor in accordance with the received
failure information.

21.   A storage system according to claim 20,
further comprising:

a control memory connected to said second

network,

wherein in accordance with the failure information stored in said control memory, said management processor stops an operation of said first adapter having a file interface with a failure and an operation of a control means of said first adapter is replaced by another first adapter having a normal file interface.

22. A storage system according to claim 21, wherein said management processor compares the failure information supplied from said channel processor with the failure information stored in said control memory to identify the control means having a file interface with a failure and select a failure processing method.

23. A storage system according to claim 21, wherein said first adapter transmits statuses of said file server unit and said channel adapter unit to said management processor and receives a management command based upon the statuses.

24. A storage system according to claim 20, wherein said management processor is connected to a management display on which information based upon the failure information is displayed.

25. A disk control system for transmitting and receiving a command and data to and from a host computer by utilizing an external protocol having a standard of at least one of "Ethernet II", "IEEE802.3" and "IEEE802.2" and accessing a recording disk by

utilizing an internal protocol other than the external
protocol, the disk control system comprising:

a file server unit and a channel adapter unit
mounted on a single board or in a single housing,

wherein:

said file server unit comprises:

a server processor for controlling said file
server unit and converting the command and the data
from the external protocol into the internal protocol;

a LAN controller for performing a
communication control of the command and the data by
using the external protocol;

a first internal bus for interconnecting said
server processor and said LAN controller; and

a host controller disposed between said
server processor and said first internal bus for
controlling transmission/reception of the command and
the data and for controlling failure information,

said channel adapter unit comprises:

a network data controller for controlling
transmission/reception of the data to and from said
recording disk;

a control data controller for controlling
transmission/reception of the command to and from said
recording disk;

a channel processor for controlling said
channel adapter unit; and

a second internal bus for interconnecting

said network data controller and said control data
controller, and

the disk control system further comprises:

a network data path connected between said
first and second internal busses for
transmission/reception of the data in accordance with
the internal protocol; and

a control data path for
transmission/reception of the command in accordance
with the internal protocol,

respectively provided physically or logically
independently between said file server unit and said
channel adapter unit, and

a management bus for transmission/reception
of the failure information without involving said first
and second internal busses.